



Health-Health Tradeoffs

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HEALTH-HEALTH TRADEOFFS

Cass R. Sunstein*

I. THE PROBLEM

My purpose in this essay is to discuss a pervasive problem in risk regulation, one that helps account for regulatory failure and that is only now receiving public attention.¹ The problem occurs *when the diminution of one health risk simultaneously increases another health risk*. Thus, for example, fuel economy standards, designed partly to reduce environmental risks, may make automobiles less safe, and in that way increase risks to life and health.² Regulations designed to control the spread of AIDS and hepatitis among health care providers may increase the costs of health care, and thus make health care less widely available, and thus cost lives.³ If government bans the manufacture and use of asbestos, it may lead companies to use more dangerous substitutes.⁴ Regulation of nuclear power may make nuclear power safer; but by increasing the cost of nuclear power, such regulation will ensure reliance on other energy sources, such as coal-fired power plants, which carry risks of their own.⁵ When government requires reformulated gasoline as a substitute for ordi-

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¹See Graham & Wiener, *Risk Vs. Risk* (1995), for the best general discussion; I owe a general debt to Graham and Wiener throughout.

²See Crandall, *Policy Watch: Corporate Average Fuel Economy Standards*, 6 *J of Econ Persp* 171 (1992).

³See *ADA v. Martin*, 984 F.2d 823, 826 (7th Cir. 1993): "OSHA also exaggerated the number of lives likely to be saved by the rule by ignoring lives likely to be lost by it. since the increased cost of medical care, to the extent passed on to consumers, will reduce the demand for medical care, and some people may lose their lives as a result."

⁴See *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201 (5th Cir. 1991).

⁵See Breyer, *Vermont Yankee and the Courts' Role in the Nuclear Energy Controversy*, 91 *Harv L Rev* 1833 (1978).

nary gasoline, it may produce new pollution problems. When government regulates air pollution, it may encourage industry to increase the volume of solid waste, and in that sense aggravate another environmental problem. A ban on carcinogens in food additives may lead consumers to use noncarcinogenic products that carry greater risks in terms of diseases other than cancer.⁶

The general problem is ubiquitous. It stems from the fact that government officials, like individual citizens and the public as a whole, suffer from both limited information and (even more important) *selective attention*. A large current priority is to develop mechanisms that overcome the problems posed by the fact that people—both citizens and regulators—tend to focus on problems that are parts of complex wholes.

My goal here is to explore the relation between health-health tradeoffs and the law, in an effort to see how governmental judgments on this topic might be improved. I develop a simple framework for deciding how regulatory agencies should approach such tradeoffs. I suggest that this framework is complicated by reference to some peculiar features of individual and collective rationality in risk assessment.

I also deal with the respective roles of courts, Congress, and the President in managing health-health tradeoffs. I urge that often agencies ought to be taken to have legal authority to make such tradeoffs, and that they ought to exercise that authority much more than they now do. To this end I argue for an interpretive principle to the effect that agencies should be allowed to consider health-health tradeoffs in the absence of a clear congressional statement to the contrary. I also urge a modest but far from trivial judicial role in requiring agencies to consider aggregate rather than isolated risks. Thus I claim that agency decisions that increase aggregate risk levels should be found arbitrary or capricious under the Administrative Procedure Act (APA).

More generally, I urge that Congress should amend the APA to require agencies to consider ancillary risks and to minimize net risks. I also argue that the Office of Information and Regulatory Affairs (OIRA) should see the reduction of overall risk as one of its

⁶See Richard Merrill, FDA's Implementation of the Delaney Clause, 5 Yale J. Regulation 1, 60-61 (1988).

principal missions. Much more than it now does, it should undertake a coordinating function so as to ensure that this mission is carried out. In these ways I hope to connect the question of sensible outcomes, or outcomes that do not suffer from the problem of excessively selective attention, with the subject of institutional design. A large problem for government institutions is to devise systems to ensure that problems of myopia or selective attention do not defeat regulatory regimes; the management of health-health tradeoffs is an important part of that project.

The essay is organized as follows. In Part I, I provide a simple conceptual map, designed to make some relevant distinctions. In Part II, I offer a first approximation of an approach to health-health tradeoffs; the first approximation is an effort to limit aggregate risks understood in “expected value” terms. I then suggest that this first approximation must be qualified by reference to some complexities in ordinary citizen judgments about risk. People care not simply about “expected value,” and not simply about how many lives are saved, but also about whether risks are involuntarily incurred, especially dreaded, inequitably distributed, potentially catastrophic, faced by future generations, and so forth. Reflective judgments of this sort diverge from both expert and economic valuations, though in interestingly different ways. Those reflective judgments bear a great deal on how we think about the “rationality” of risk regulation.

Part III deals with existing law, urging agencies to undertake more health-health tradeoffs than they now do, and explaining how a judicial role could encourage this to happen. Part IV deals with how Congress and the President might approach health-health tradeoffs in a way that diminishes the problems associated with the “pollution of the month” syndrome and with myopia or selective attention.

I. A CONCEPTUAL MAP

A. Regulated and Ancillary Risks

To get a handle on the problem of health-health tradeoffs, we need to make some distinctions. Call the risks that government is

trying to control the *regulated risks*. Call the risks that are increased by regulation the *ancillary risks*.⁷

Ancillary risks take many different forms, depending on their relationship to the regulated risk. We might say that the increase in acid deposition is not *within the same domain* as the risks prevented by regulation of nuclear power plants. This is true in two different ways, legal and factual. First, and for many purposes most important, the law does not consider it in the same domain, for the agency that regulates one of these risks, the Environmental Protection Agency (EPA), has no authority to regulate the other, which is governed by the Nuclear Regulatory Commission (NRC). A pervasive problem in handling health-health tradeoffs stems from organization charts that allocate authority to diverse agencies, in a way that makes coordinated responses difficult or impossible. Second, the risk of acid deposition (mostly from coal-fired power plants), simply as a matter of fact, has a different source from the risk from nuclear power plants. The point is important because it suggests that health-health tradeoffs will often require agencies to compile extensive information, possibly in a way that will dwarf existing capacities. Compare a situation in which the regulation of sulfur dioxide emissions increases emissions of carbon monoxide. If this happens, we are dealing in any event with air pollution, indeed air pollution from largely the same technologies, and the EPA has the statutory authority to regulate both sources.

It is therefore possible to imagine a complex continuum of relationships between regulated risks and ancillary risks. Of course there are differences among risks of degree as well as differences of kind, especially in the factual domain, where there is often an element of overlap between relevant inquiries. And of course we might describe the domain of the regulated risk in many different ways. For some purposes the best way to define the risk domain is through the relevant law, which, as we will see, sets constraints on the kinds of risk that agencies might consider.

A well-functioning administrative state would seek a measure of coordination among agencies, so that an agency operating in one domain does not inadvertently or unnecessarily increase risks in

⁷Cf. the discussion of target risks and countervailing risks in Graham and Wiener, *supra* note.

other domains, and so that risk judgments are made as globally as possible. At least as a presumption, agencies should coordinate their efforts so as to reduce net or overall risks. But a special problem for coordinated responses is that agencies have quite different standards for deciding when risks require regulation.⁸ The International Commission on Radiological Protection, for example, recommends that environmental factors should not cause an incremental cancer risk, for those exposed over a lifetime, of about 3 in 1,000. But American agencies do not follow this recommendation, and their own practices are wildly variable. The NRC sees 1 in 1,000 as acceptable; the EPA's acceptable range varies from 1 in 10,000 to 1 in 1,000,000. The Food and Drug Administration (FDA) has tried to use a standard of 1 in 1,000,000, but under the now-repealed Delaney Clause, courts required a standard of essentially zero.⁹ The Occupational Safety and Health Administration's (OSHA) understanding of the "significant risk" requirement found in its governing statute¹⁰ means a risk of 1 in 1,000; labor groups have sought an increase to 1 in 1,000,000.

These varying standards make health-health tradeoffs quite complex. If one agency is using a standard of 1 in 1,000 for risk *A*, and doing so lawfully, how should it deal with an increase in risk *B*, when that risk is regulated by a different agency operating lawfully under a different standard? Matters become even more complex when risks from cancer are being compared with other sorts of risk. I do not urge that judgments about significance must be uniform. Contextual differences may justify different judgments about which risks warrant special concern. But such judgments should be made in a self-conscious and informed rather than ad hoc way. I return to this issue below.

There are many different mechanisms by which risk regulation may increase aggregate risks.¹¹ All of these mechanisms have a

⁸See Sadowitz and Graham, *A Survey of Permitted Residual Cancer Risks*, 6 RISK 17 (1995).

⁹*Public Citizen v. Young*, 831 F.2d 1108 (DC Cir 1987); *Les v. Reilly*, 968 F.2d 985 (9th Cir 1992).

¹⁰See *Industrial Union v. American Petroleum Inst.*, 448 US 607 (1980).

¹¹See Graham & Wiener, *supra*, at 23-25; Aaron Wildavsky, *Searching for Safety* (1987).

degree of complexity, and hence collective judgments that respond to them may well misfire.

—A regulatory ban may result in independent health risks coming from ancillary “replacement” risks. If we ban substance *A*, the replacement substance *B* may be dangerous too. If a carcinogenic substance is regulated, perhaps people will use a product that is not carcinogenic but that causes serious risks of heart disease.

—Regulation may produce a new, offsetting risk that is qualitatively similar to or indistinguishable from the target risk. Perhaps regulation of some substances that threaten to destroy the ozone layer will produce greater use of other substances that also threaten the ozone layer.

—Regulation may force society to lose or forego “opportunity benefits.” For example, careful screening procedures that keep out drugs and services may deprive people of certain health benefits at the same time that they protect people from certain health risks. This problem has received recent attention with respect to the Food and Drug Administration, especially with its efforts to control the spread of AIDS.

—Regulated substances may have health benefits as well as health risks, and by eliminating those health benefits, regulation may therefore create health dangers on balance.

—Regulation of one risk may protect a certain group of people while imposing a new risk on another group. This may happen if, for example, a ban on a certain pesticide protects consumers, plants, and animals while increasing risks to farmers.

—Most generally, the economic costs imposed by regulation may create health risks as well, as we shall soon see.

When officials think about health-health tradeoffs, the distributional incidence of the ancillary risk may matter a great deal. Sometimes the ancillary risk falls on the same class of people as the regulated risk; sometimes the ancillary risk burdens an entirely

different group. This may matter a great deal for policy purposes; it suggests that *risk redistribution*, rather than risk reduction, is a possible goal and outcome of regulation. Interest groups may well try to exploit this possibility. Hence it should be expected that odd coalitions will develop to reduce risks of a certain kind when the result is to shift risks (and control costs) from some groups to others.¹²

B. "Richer Is Safer"

Thus far we have been discussing cases in which the act of regulating one risk produces ancillary risks through a certain causal chain; there is a particularly controversial version of this possibility, one that has been receiving much recent attention. Regulations cost money—sometimes a great deal of money—and private expenditures on regulatory compliance may produce less employment and more poverty. People who are unemployed or poor tend to be in worse health and to live shorter lives.¹³ If wealthy people face diminished threats to life and health, and if poor people face greater threats, might not costly regulation increase risks simply by virtue of reducing wealth?

There are several reasons why this might be so.¹⁴ First, people with more wealth have more capacity to spend their income on health-enhancing goods and activities. For example, poor people have inferior housing and a lower rate of smoke detector installment, and this may be connected with greater deaths from fire. Second, people who are poorer also suffer from various stresses that may have adverse health effects. Finally, greater social wealth is associated with more general social changes in the direction of greater safety, though the relevant mechanism is not well understood.

This possibility has been reflected in legal opinions, perhaps most prominently in Judge Easterbrook's suggestion that a fetal protection policy might "reduce risk attributable to lead at the cost of increasing other hazards," including the hazards stemming from less income, since "there is also a powerful link between the parents'

¹²See Bruce Ackerman and William Hassler, *Clean Coal/Dirty Air* (1981).

¹³See Aaron Wildavsky, *Searching for Safety* 59-75 (1987).

¹⁴See Cross, *When Environmental Regulations Kill*, 22 *Ecology LQ* 729 (1995).

income and infants' health."¹⁵ The more general question is this: Would it be possible to connect governmentally required expenditures on risk-reduction with shifts in unemployment and poverty?

An incipient literature attempts to do precisely this. A 1990 study attempted to develop a model to quantify the view that "richer is safer."¹⁶ According to Keeney, a single fatality might result from a compulsory expenditure of from \$6.49 million to \$7.5 million; with different assumptions about the distributional incidence of the costs, the estimate could range between \$3 million and \$12 million. In a concurring opinion in a 1991 case involving occupational safety and health regulation, Judge Williams invoked this evidence to suggest that OSHA's refusal to engage in cost-benefit analysis might not be beneficial for workers.¹⁷ Judge Williams reasoned in the following way. If a fatality results from an expenditure of \$7.5 million, some regulations might produce more fatalities than they prevent. Many regulations of course cost more than \$7.5 million per life saved. In Judge Williams' view, an agency that fails to measure costs against benefits might be failing to measure mortality gains against losses.

The claimed relationship between wealth reductions and mortality is controversial.¹⁸ But a number of studies find such a relationship. Consider the following summary.¹⁹

¹⁵*Intl Union v. Johnson Controls*, 886 F.2d 871, 908 (7th Cir., 1989) (Easterbrook, F., dissenting), reversed, 499 US 187 (1991).

¹⁶Keeney, *Mortality Risks Induced by Economic Expenditures*, 10 *Risk Analysis* 147 (1990). See also Keeney, *Mortality Risks Induced by the Costs of Regulations*, 8 *J Risk and Uncertainty* 95 (1994).

¹⁷*UAW v. OSHA*, 938 F.2d 1310 (DC Cir 1991). See also *Building & Constr. Trades Dept. v. Brock*, 838 F.2d 1258 (DC Cir 1988), suggesting that "leaning toward safety may sometimes have the perverse effect of increasing rather than decreasing risk." *Id.* at 1267. See also *New York State v. Brown*, 854 F.2d 1379, 1395 n. 1 (DC Cir., 1988 (Williams, J., concurring): "extravagant expenditures on health may in some instances affect health adversely, by foreclosing expenditures on items—higher quality food, shelter, recreation, etc.—that would have contributed more to the individual's health than the direct expenditures thereon."

¹⁸See Portney and Stavins, *Regulatory Review of Environmental Policy*, 8 *J Risk and Uncertainty* 111 (1994).

¹⁹Borrowed from Lutter and Morrall, *Health-Health Analysis*, 8 *J Risk and Uncertainty* 43, 49 (1994)

TABLE I

Study	Data	Implicit Income Gains Necessary to Avert One Death (millions)	Comments
Keeney (1990)	Used income and mortality correlations from Kitagawa and Hauser (1960) data, and others	\$12.3	Cited in <i>UAW v. OSHA</i> , as \$7.25 1980 dollars. Represents an upper-bound
Jnt. Economic Committee (1984)	Aggregate U.S. income, employment, mortality and morbidity; 1950-1980	\$1.8 to \$2.7	Reflects income loss from recession of 1974-1975
Anderson and Burkhauser (1985)	4, 878 male workers over 10 years, 1969-1979	\$1.9 (wages) \$4.3 (other income)	Older workers aged 58-63. Measured effects of wages and of value of one's home on mortality
Duleep (1986)	9,618 white married male workers aged 35-64 over 6 years, 1973-1978	\$2.6	Controls for prior disability, and educational attainment

TABLE 1 (Continued)

Study	Data	Implicit Income Gains Necessary to Avert One Death (millions)	Comments
Duleep (1991)	9,618 white married male workers aged 35-64 over 6 years, 1973-1978	\$3.9	Controls for prior disability, educational attainment, and exposure to occupational hazards
Duleep (1989)	13,954 white married male workers aged 25-64 over 6 years, 1973-1978	\$6.5	Finds income effects at all income levels
Wolfson (1992)	500,000 Canadian workers, over 10-20 years	\$6	Investigates longevity rather than mortality. Finds income effects at highest quintiles of income
National Institutes of Health (1992)	1,300,000 Americans, all ages, 1979-1985	\$12.4	Estimate reflects effect of income changes on family mortality. Study does not use multiple regression, does not control for prior health status or education
Chirikos and Nestel (1991)	5,020 men, aged 50-64 studied during 1971-1983	\$3.3	Uses two measures of health endowments
Chapman and Hariharan (1993)	5,836 older men over 10 years	\$12.2	Uses four distinct controls for prior health conditions
Graham, Hung-Chang and Evans (1992)	38 years of age-adjusted mortality and income data for the U.S.	\$4.0	Distinguishes effects of permanent income from those of transitional income

This point leads to a broader one with considerable implications for law. Even if agencies are sometimes prevented, by law, from measuring costs against benefits, perhaps they could compare health losses with health gains, and conclude that some regulations are not worthwhile because they cost lives on net. In fact it can be shown that some regulations fail “health-health analysis” whether or not they pass cost-benefit analysis. Consider the summary in Table 2.²⁰

The idea that “richer is safer” has started to affect public deliberations about risk. In a now-celebrated letter written in 1992, James McRae, the Acting Administrator of OIRA, wrote to the Department of Labor, questioning a proposed OSHA regulation involving air contaminants in the workplace. OSHA had estimated savings of between eight and thirteen lives per year, at an annual cost of \$163 million. McRae suggested that there was a significant gap in OSHA’s analysis: If a statistical fatality is produced by an expenditure of \$7.5 million, the regulation could actually cause 22 additional deaths. McRae asked OSHA to investigate the relation between health, wealth, and safety. OSHA responded that existing data to the effect that “richer is safer” seemed highly speculative, but it did call for more comments from the public.²¹

Eventually a public outcry forced OIRA to retreat. Senator Glenn in particular complained of OIRA’s “Alice-in-Wonderland type claim that health and safety regulations cause harm to workers” and objected that the “richer is safer” view “seems to stand logic on its head—to say that controlling a dangerous substance in the workplace makes an increased health hazard to the worker.” Despite the public outcry, increasing research on the issue suggests that lives can indeed be lost through required regulatory expenditures, and that at a minimum there is reason for government to take the problem seriously.

If officials are to consider the fact that “richer is safer,” it is important to know whether the burdens of regulation fall on those who are poor and near-poor or those who are rich. Simple intuition suggests that a loss in income from relatively poor people will have

²⁰Lutter and Morrall, *supra*, J of Risk and Uncertainty at 59.

²¹57 Fed Reg 26002, 26005-09 (1992).

TABLE 2
REGULATIONS PASSING HHA VS. BCA TESTS

Budgeted Regulations	Year	Agency	Status	Cost-per-life-saved (millions of 1992 \$)
1. Steering column protect.	1967	NHTSA	F	0.1
2. Unvented space heaters	1980	CPSC	F	0.1
3. Cabin fire protection	1985	FAA	F	0.3
4. Passive restraints/belts	1984	NHTSA	F	0.4
5. Fuel system integrity	1975	NHTSA	F	0.4
6. Trihalomethanes	1979	EPA	F	0.4
7. Underground constr.	1989	OSHA-S	F	0.4
8. Alcohol & drug control	1985	FRA	F	0.7
9. Servicing wheel rims	1984	OSHA-S	F	0.7
10. Seat cushion flammability	1984	FAA	F	0.8
11. Floor emergency lighting	1984	FAA	F	0.9
12. Crane susp. pers. platf	1988	OSHA-S	F	1.2
13. Children's sleepware flammability	1973	CPSC	F	1.8
14. Side doors	1979	NHTSA	F	1.8
15. Concr. & masonry constr.	1988	OSHA-S	F	1.9
16. Hazard communication	1983	OSHA-S	F	2.4
17. Asbestos	1986	OSHA-H	F	2.8
18. Benzene/fugitive emiss.	1984	EPA	F	3.8
<i>Regulations failing BCA test</i>				
19. Grain dust	1987	OSHA-S	F	8.8
20. Radionuclides/uran. mines	1984	EPA	F	9.3
<i>Regulations failing HHA (and BCA) test</i>				
21. Benzene	1987	OSHA-H	F	23.1
22. Ethylene oxide	1984	OSHA-H	F	34.6
23. Uran. mill tail./inact.	1983	EPA	F	37.3
24. Acrylonitrile	1978	OSHA-H	F	50.8
25. Uran. mill tail./active	1983	EPA	F	71.6
26. Asbestos	1989	EPA	F	72.9
27. Coke ovens	1976	OSHA-H	F	83.4
28. Arsenic	1978	OSHA-H	F	125.0
29. DES (cattlefeed)	1979	FDA	F	178.0
30. Arsenic/glass manufact.	1986	EPA	F	192.0
31. Benzene/storage	1984	EPA	R	273.0
32. Radionuclides/DOE facil.	1984	EPA	R	284.0
33. Radionuclides/elim. phos.	1984	EPA	R	365.0
34. Acrylonitrile	1978	OSHA-H	R	416.0
35. Benzene/ethylbenz./styr.	1984	EPA	R	652.0
36. Benzene/maleic anhydride	1984	EPA	R	1,107.0

37. Formaldehyde	1987	OSHA-H	F	119,000.0
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more severe health effects than a similar loss from the relatively well-off. A recent study confirms the intuition.²² It suggests that when program costs are borne exclusively by the richest 20 percent of the population, mortality effects are one-half as high as when program costs are borne exclusively by the poorest 20 percent of the nation.²³ Thus it is necessary to know the distributional incidence of costs in order to see the extent to which “richer is safer.”

C. Why Does It Matter?

We have now seen enough to know that an impressive body of work attempts to measure health gains from regulation against health risks from regulation. But why should we focus on this particular question? Why would it not be better to attend to the overall gains from regulation and to the overall losses from regulation? Cost-benefit analysis is receiving considerable attention in both agencies and Congress, and cost-benefit analysis, properly conceived, takes account of all of the health-related effects of regulation. Health-health assessments focus on a subset of effects, and refuse to translate those effects into dollars. Such assessments ignore all costs unrelated to mortality and morbidity. But what is special about health-health tradeoffs? Why should analysts focus on such tradeoffs rather than on all relevant effects?

Part of the answer lies in existing public judgments, taken as simple brute facts. People seem to think that regulation is bad if it causes more deaths than it saves; a demonstration to this effect counts strongly against regulation. But people do not always know how to compare health gains (15 lives gained, for example) with monetary losses (an expenditure of \$15 million, for example). This uncertainty stems partly from the fact that lives and dollars are not easily made commensurable, and partly from the fact that the appropriate amount to spend on protection of a (statistical) life very much depends on context. A deliberative judgment on net health

²²See Kenneth Chapman and Govind Hariharan, Do Poor People Have A Stronger Relationship Between Income and Mortality Than the Rich?, 12 J Risk and Uncertainty 51 (1996).

²³Id. at 59.

tradeoffs is easier to reach than a deliberative judgment on other sorts of tradeoffs.

It would, however, be inadequate for present purposes to point to existing public judgments, which may be irrational or confused. Perhaps public uncertainty about cost-benefit judgments depends on an obstinate and counterproductive unwillingness to acknowledge that even (risk to) life has its price and that risks are matters of degree rather than “dangerous or not.”²⁴ But part of the answer can be found in information costs. The comparative defect of health-health assessment is also its virtue: it involves only a subset of the consequences of regulation. Some such assessment can be undertaken with fewer facts.

Another part of the answer may lie in attending more closely to problems of incommensurability. We might understand incommensurability to arise when no single metric is available by which to assess variables at stake in a social decision.²⁵ In the area of risk regulation, a single metric is troublesome simply because it elides qualitative distinctions. Cost-benefit analysis attempts to provide such a metric. And if all effects are reduced to the metric of dollars, it may be possible to make simple assessments, in the sense that comparisons and hence tradeoffs can become easier. But reduction of mortality and morbidity effects to dollars can erase important qualitative distinctions among diverse risks. It is important for officials to have a sense of these distinctions when they make decisions.

It is in the face of qualitative distinctions that participants in democratic deliberation often resist a metric of dollars. To say this is not to say that there is a problem of incomparability or that tradeoffs do not have to be made among qualitatively diverse goods. But perhaps people can make choices more easily when the tradeoffs involve qualitatively indistinguishable things, like lives, rather than qualitatively diverse things, like lives and dollars. When it is hard to trade off lives against dollars, the burdens of judgment might be eased when we are trading off lives against lives. A judgment of this kind undoubtedly underlies the interest in “health-health analysis.”

²⁴On people’s reluctance to acknowledge this, see Redelmeier et al, *Understanding Patients’ Decisions*, 270 JAMA 72, 72-73 (1993).

²⁵See Sunstein, *Incommensurability and Valuation in Law*, 92 Mich L Rev 779 (1994).

There is considerable truth to this suggestion. But it is a bit too crude. As we shall see, lives are themselves not commensurable, in the sense that a single metric—"lives saved"—is itself too coarse-grained to account for people's considered judgments. We do not reason well if we think that two lives should always be traded for, say, two and a half; a great deal depends on the context in which statistical lives are put at risk.²⁶ For this reason problems of incommensurability cannot be eliminated so easily. They play a large role in health-health comparisons too.

What solutions are possible? It is possible to reduce these problems by looking not at total lives lost or gained, but at the effects of regulations on the number of quality-adjusted life years.²⁷ A regulation that saves thirteen children while jeopardizing fifteen elderly people may well be worthwhile. Government might thus focus on statistical years rather than statistical lives. In this way problems of incommensurability might be reduced through certainly not eliminated.

III. INCORPORATING HEALTH-HEALTH COMPARISONS

A. First Approximation

Let us try, in a simple, intuitive way, to identify the factors that should enter into deliberative judgments about health-health tradeoffs. Begin with a simple case in which the costs of information and inquiry are zero. If this is so, all agencies should investigate all risks potentially at stake. Agencies should always take account of ancillary risks and always try to limit overall or aggregate risks.

Of course the costs of investigation and inquiry are never zero; in fact they are often very high. We can readily imagine that agencies could spend all their time investigating ancillary risks, and never do

²⁶"There are deep and fundamental and intuitively understood grounds for rejecting the view that confines itself merely to checking the parity of outcomes, the view that matches death for death, happiness for happiness, fulfillment for fulfillment, irrespective of how all this death, happiness, and fulfillment comes about." Amartya Sen, *Freedoms and Needs*, *New Republic* 31, 32-33 (Jan 11, 1993).

²⁷Zeckhauser and Shepherd, *Where Now For Saving Lives?* 40 *L. & Contemp Probs* 5 (1976).

anything else—a disaster for regulatory policy. (This is a potential problem with cost-benefit analysis: Cost-benefit analysis may itself fail cost-benefit analysis—if the costs of undertaking cost-benefit analysis are high and the benefits lower.) When the costs of inquiry are not zero, the obligation to inquire into ancillary risks might be a function of several factors. First is the cost of delay, understood as the cost of not controlling the regulated risk until more information has been compiled. To figure out this cost, it is necessary to explore the seriousness of the regulated risk and the length of time necessary to investigate the ancillary risk. Second is the cost of investigating the ancillary risk, where this cost is understood as a product of the cost of compiling and evaluating the relevant information. Third is the benefit of investigating the ancillary risk, with the benefit understood as the likelihood of uncovering information that might help to produce a different and better result.

Under this view, it is of course (and unfortunately) important to know at least something about the possible extent of the ancillary risks and the costs of discovering it. Hence there is a problem of circularity: It is impossible to know whether to undertake health-health analysis without doing a bit of health-health analysis, at least by making some initial judgments about the ancillary risk—a risk that, by hypothesis, has not yet been explored. Before the actual investigation has occurred, there will be a good deal of intuition and guesswork; the full facts cannot be known until inquiries have been completed, and the real question is whether it is worthwhile to complete the inquiries or even to embark on them.

But even at an early stage, it is possible to know that some ancillary risks are likely to be high, while others are trivial or low. Moreover, some ancillary risks can be investigated relatively inexpensively, while others depend on scientific and predictive judgments that require an enormous investment of resources. There is an analogy here in the question whether and when agencies must explore alternatives under the National Environmental Policy Act or the APA. Here courts have indicated that some but not all alternatives must be investigated, and the outcome turns on considerations like those I have discussed here.²⁸ Of course an agency might be reluctant to inquire into ancillary risks on the theory that if it does so, it

²⁸See *Vermont Yankee v. NRDC*, 435 US 519, 551-55 (1978).

will be unable to regulate the risk at issue before it is too late. Thus it seems clear that the extent and nature of the regulated risk are crucial factors for those deciding whether to explore ancillary risks.

On this simple, intuitive view, an agency might think in the following way: If it would be enormously expensive to investigate whether fuel economy standards would really produce smaller and more dangerous cars, if the fuel economy standards would themselves do a lot of good, and if the likelihood of a high ancillary risk seems small, then it makes sense to proceed with the fuel economy standards without investigating the ancillary risks.²⁹ On the other hand, it is easy to imagine a scenario in which investigation of ancillary risks is reasonable, or when failure to investigate would be irrational. Thus the National Highway Transportation Safety Authority's (NHTSA) actual position with respect to fuel economy standards and safety is that the ancillary risk is worth investigating.

Compare the question how to handle ancillary risks created by the prohibited manufacture of asbestos. One ancillary risk arises from the fact that asbestos appears to be the best product for use in brake linings, and existing substitutes are worse. Whether this is true, and how serious the ancillary risk is, can be investigated at the present time. But other ancillary risks involve the substitutes for asbestos in products for which no substitutes are now available. On the view of the EPA, the ban on asbestos will force technological innovation, producing new substances that do the work now done by asbestos.³⁰ This may be a reasonable view. If so, the government has reason to regulate asbestos now and to wait before evaluating any substitute risks.

B. Existing Law and Its Rationale

How should we understand existing law in light of this first approximation? Congress has apparently forbidden health-health analysis in many settings, by directing agencies to focus on certain health problems and not to inquire into others. Questions therefore arise about what understanding, if any, accounts for the prohibition.

²⁹Cf. EPA's position in *Corrosion Proof Fittings v. EPA*, 947 F.2d 1201 (5th Cir. 1991).

³⁰*Id.*

Some of the relevant statutes might be seen to reflect categorical, rule-bound judgments reflecting factors of the kind just discussed. Congress might think, for example, that the NRC should not ask whether regulation of nuclear power will cause a shift to coal-fired power plants and thus aggravate the problem of acid deposition, because the problem of unsafe nuclear power is an especially serious one, because nuclear power regulation is by itself unlikely to produce significant increases in acid deposition, and because it is very hard for the NRC, given its limited budget and expertise, to make the necessary extrapolations. Under the considerations I have discussed, the NRC might plausibly be exempted from the duty of exploring ancillary risks, or even banned from doing so.

Alternatively, the problems posed by ancillary risks might be solved by a healthy *division of labor*. Any effects on automobile safety that come from air pollution regulation that produces smaller cars might be controlled by the NHTSA. Perhaps NHTSA has the authority to make sure that the ancillary risk does not come to fruition. Any adverse effects of EPA regulation could be prevented by NHTSA. Perhaps the two agencies will coordinate their efforts to ensure that aggregate risks are minimized. Or consider the health risks from regulation inducing employment and poverty. It might be thought that the disemployment effects of regulation are or should be addressed by other governmental institutions, including those entrusted with the power to reduce unemployment and poverty.

Of course there are serious problems with the division of labor strategy. Coordination of risk regulation is difficult to achieve, and in modern government, it has not been pursued in any systematic way. In any case it would be surprising if a healthy division of labor accounted for existing practice, for there is no evidence that agencies systematically respond to increases in ancillary risk created by regulation.

Another explanation for existing authority to consider some risks but not others would point to the important role of *interest groups* in the regulatory process.³¹ On this view, the disparities in regulatory strategies are attributable to the fact that well-organized groups are able to obtain legislation in their interest, or to fend off harmful

³¹See the discussion of “omitted voices” in Graham and Wiener, *supra* note.

regulation. It should be unsurprising that the statute regulating agricultural practices allows for a form of open-ended balancing; the agricultural groups are in a good position to fend off draconian legislation. Some environmental groups work very hard to obtain severe restrictions on carcinogenic substances.

In fact interest groups might work together so as to redistribute risks, and the resulting coalitions might well ban agencies from engaging in health-health analysis, for fear that the result will be a failure of redistribution. If, for example, corn producers attempt to obtain an ethanol requirement for gasoline, they may not be disturbed to find that ethanol itself imposes environmental risks. Or if it happens that electric cars produce environmental hazards because of waste disposal problems, the redistribution of the risk may not be bothersome to those who favor electric cars on self-interested grounds. It would even be possible to imagine cases in which the redistributed risk was affirmatively sought, if, for example, those who face the new risk are competitors. Undoubtedly an investigation of the political economy of risk regulation would reveal many diverse cases in which interest groups pursue their own interests rather than overall risk reduction.

Other explanations would point to *myopia*, *selective attention*, *sensationalism*, *loss aversion*, *credit-claiming*, and *random agenda selection* as important forces in the production of risk regulation.³² Some statutes stem from sensationalistic events, like the Love Canal scare, that encourage legislators to hold hearings and claim credit for fixing problems that are not large or that are just part of a complex whole. Such statutes are likely to reflect myopia or selective attention. The result may well be a form of random agenda selection that bans health-health tradeoffs, that does not adequately reduce risks, or that even increases some risks. People are pervasively averse to losses from the status quo—more so than they are favorably inclined to improvements from the status quo—and loss aversion may account for apparently irrational judgments about how to trade off health risks.³³

³²These are important points in S. Breyer, *Breaking the Vicious Circle* (1993).

³³See Noll & Krier, *Some Implications of Cognitive Psychology for Risk Regulation*, 19 *J Legal Studies* 747 (1990)

Finally, some statutes might reflect *public judgments* about how to conduct health-health tradeoffs. Perhaps the public believes that an increase in a certain risk is not a relevant factor in the assessment of another risk. This could be a product of simple confusion, as in the well-established refusal, on the part of some of the public some of the time, to acknowledge any need for tradeoffs.³⁴ Such judgments should not be given any weight in law; but Congress, responsive to the electorate, appears to disagree with this proposition. Or public judgments might be based on heuristics of certain kinds, productive of errors,³⁵ or instead of gripping anecdotes that make draconian regulation of a certain risk seem quite sensible. In these ways, relevant judgments could be confused, and we might seek a form of expert judgment that would produce more in the way of regulatory rationality.³⁶ Some such judgments might, however, result from something other than confusion. They might depend on judgments about sensible regulatory priorities and about qualitative differences among risks. I take up this point below.

C. Incorporating Complexities

Our first approximation has suggested that all risks should be aligned along a single metric—expected annual deaths, aggregate benefits and costs—and hence measured against one another. Both expert and economic approaches attempt to do this, though in interestingly different ways. Experts tend to look at expected annual deaths and to assess risks accordingly.³⁷ But ordinary people base their judgments on something other than this. They look, for example, at whether the risk is faced voluntarily or involuntarily; whether it is equitably distributed; whether it is faced by future generations; whether it is potentially catastrophic; whether it involves a death that is especially dreaded; and whether it is new and poorly understood. Consider the following table.

³⁴See Lichtenstein et al., When Lives Are In Your Hands, in *Insights in Decision Theory* 91, 95 (R. Hogarth ed. 1990).

³⁵See Noll & Krier, Some Implications of Cognitive Psychology for Risk Regulation, 19 *J Legal Studies* 747 (1990).

³⁶See H. Margolis, *Dealing With Risk* (1996); Breyer, *supra* note.

³⁷See H. Margolis, *Dealing With Risk* (1996); Pildes & Sunstein, Reinventing the Regulatory State, 62 *U Chi L Rev* 1, 36-39, 55-58 (1995).

TABLE 3

Risk Characteristic	Aggravating Factor	Mitigating Factor
Nature of Risk	dreaded	acceptable
Permanence	irreversible/uncontrollable	reversible/controllable
Duration	faced by future generations	faced by those now living
Equity	unfairly distributed	fairly distributed
Source of Risk	man-made	found in nature
Freedom	voluntarily incurred	forced exposure
Existing Understanding	known to science	unknown
Relation to Status Quo	new	old

If aggravating and mitigating factors are taken into account, it might well be the case that people would find, say, 300 cases of cancer more acceptable than 350 cases of heart disease, given certain assumptions about what causes each. In contingent valuation studies, people purport to be willing to pay far more to prevent cancer deaths (from \$1.5 million to \$9.5 million) than they would to prevent unforeseen instant deaths (from \$1 million to \$5 million).³⁸ It is similarly possible that people might therefore accept a regulated risk involving 100 annual fatalities even if the ancillary risk involves 110 annual fatalities; perhaps the ancillary risk is less severe because it is voluntarily run, not especially dreaded, and well understood. The democratic decision to look at something other than quantity is easy to defend. It is also fully rational.

We come, then, to a complication for the initial approximation: Risks should be evaluated in accordance with the various qualitative factors deemed relevant by ordinary people who are evaluating risk.³⁹ At least this is so if ordinary people are not behaving irrationally or ignoring the need for tradeoffs.⁴⁰ Of course it would be possible to assign numbers to these factors if this step aided analysis.

Economic approaches promise to avoid some of the problems of expert valuations. Most important, private willingness to pay should

³⁸See Tolley et al., *Valuing Health for Policy* 341-42 (1994).

³⁹This proposition is defended in detail in Pildes & Sunstein, *supra* note. Some of the complexities in writing of "voluntariness" and "control" are discussed in Sunstein, *Which Risk First?*, U Chi. Legal Forum (forthcoming) 1997).

⁴⁰ See the provocative argument in Margolis, *supra* note.

incorporate some or even all of the factors that underlie ordinary lay judgments. It might be possible to ascertain private willingness to pay from studies of actual market behavior and from contingent valuation studies.⁴¹ And from these results it is possible to derive valuations of diverse social risks. Consider the following table.⁴²

TABLE 4
MORTALITY VALUES BY CAUSE OF DEATH

Category (per statistical life)	VALUE ESTIMATES (MILLIONS \$)		
	Low	Medium	High
Unforeseen Instant Death	1.0	2.0	5.0
Asthma/Bronchitis	1.3	2.5	5.5
Heart Disease	1.25	2.75	6.0
Emphysema	1.4	3.5	9.0
Lung Cancer	1.5	4.0	9.5

There are, however, enormous difficulties in the idea that officials can get, from private willingness to pay, an adequate sense of how to order the risks at stake in regulation. Health-health tradeoffs cannot easily be based on surrogates for market valuation. Actual choices are “noisy”; from a market decision—to take a job, to buy a Volvo, to get a smoke alarm—it is not easy to derive a consistent valuation of life. Such decisions are highly geared to the context in which they are made; it is not clear that one can infer from actual choices in one context people’s valuations about other choices in a different context.

Contingent valuation studies can build in a sense of context, but the answers may not be reliable. They may well be a product of strategic behavior, of questions and answers not thought meaningful in real life, or of a perceived purchase of moral satisfaction rather than any commodity. Valuation is greatly affected by whether the good is offered alone or in connection with other goods; wildly different responses can be obtained depending on the sequence of questions; and people often give the same amount to reflect their willingness to save 200, 2,000, or 20,000 members of a certain

⁴¹See Tolley et al., *supra*; Viscusi, *Fatal Tradeoffs* (1993).

⁴²Tolley et al. at 342.

species.⁴³ In any case democratic choices should reflect a process of reason-giving in which it is asked what policies are best to pursue, rather than a process of preference-satisfaction in which each person is asked how much he is willing to pay for a certain result. Deliberative outcomes should not be confused with aggregated willingness to pay.

Government officials must, in these circumstances, proceed pragmatically and experimentally, perhaps by taking aggregate numbers based on expert judgments as a starting point, focusing on number of quality-adjusted life-years saved rather than simply lives saved, and invoking the supplemental considerations, involving democratic convictions, that I have described here.

IV. COURTS AND EXISTING LAW

I now turn to existing law. If an agency takes account of ancillary risks, has it behaved unlawfully? If an agency refuses to consider such risks, should courts require it to do so?

A. Consideration of Ancillary Risks

Suppose first that an agency actually considers health-health tradeoffs. Is it permitted to do so under existing law? Agencies have considerable flexibility here, since under current doctrine agencies have a good deal of discretion to interpret ambiguous statutes as they see fit.⁴⁴ If the governing statute is ambiguous, agencies should be permitted to consider health-health tradeoffs.

Sometimes, however, statutes are unambiguous on this point, and ancillary risks are excluded as reasons for regulatory action or inaction. Under the Delaney Clause, for example, the FDA was generally believed to be banned from considering the possibility that the exclusion of foods with carcinogens will increase risks from (say) heart disease. The FDA was apparently prohibited from considering this or any other ancillary risk. A similar problem arises under the toxic substances provision of the Occupational Safety and Health Act, which probably bans OSHA from asking whether richer is

⁴³See Stewart, Liability for Natural Resource Injury, in *Analyzing Superfund* (R. Revesz and R. Stewart eds. 1995) 219, 236.

⁴⁴See *Chevron v. NRDC*, 467 US 837 (1984).

safer, or even from balancing workplace risks against ancillary risks created by regulation.

But sometimes agencies are given sufficiently broad authority, and they may, if they choose, consider ancillary risks. For example, the basic pesticide statute (FIFRA) provides that agencies must ask whether pesticides produce “unreasonable adverse effects on the environment,” and this term requires the agency to take “into account the economic, social, and environmental costs and benefits of the use of any pesticide.”⁴⁵ Thus FIFRA certainly authorizes EPA to consider the possibility that any regulation would create aggregate harms. The Toxic Substances Control Act reads in similar terms. The Clean Air Act and the Federal Water Pollution Control Act allow government to consider a broad range of good and bad environmental effects in requiring technologies to reduce air and water pollution. Outside of the context of toxic substances, the Occupational Safety and Health Act defines occupational safety and health standards as those “reasonably necessary or appropriate” to the goal of ensuring “safe or healthy employment and places of employment.”⁴⁶ OSHA may reasonably decide that a standard is not “reasonably necessary or appropriate” if the effect of the regulation is to lose aggregate lives. It is permitted to consider the effects of regulation in causing risks to life and health through poverty and unemployment.

We might go further. As noted, courts generally defer to reasonable agency interpretations of law. In addition, statutes are generally interpreted so as to avoid absurdity, even in the face of apparently clear text.⁴⁷ For the modern regulatory state, it would make sense for courts to adopt *a new interpretive principle to the effect that agencies are permitted to minimize net risks to life and health, a principle that Congress can overcome only with a clear statement to the contrary*. This principle makes particular sense in light of the fact that the agency is in the best position to decide whether consideration of health-health tradeoffs would be feasible, or instead a barrier to successful implementation of the underlying statute. Compared with courts,

⁴⁵7 USC 136(bb).

⁴⁶29 USC 652(8).

⁴⁷See, e.g., *Riggs v. Palmer*, 115 NY 506 (1889); *Church of the Holy Trinity v. United States*, 143 US 457 (1887).

agencies are both technically expert and democratically accountable; they are also in a uniquely good position to obtain a systematic overview of the statutes they administer, and that position can enable them to counteract unintended harmful consequences.⁴⁸ If an agency tries to administer the statute so as to ensure that ancillary health risks are considered, it should be allowed to do so. Congress should not lightly or by inadvertence be taken to have forbidden agencies from ensuring that regulations do not create net harm, and that they create the greatest possible net benefit.

This idea casts some doubt on the courts' approach to the Delaney Clause. In *Les v. Reilly*,⁴⁹ the EPA sought to create a de minimis exception to the Clause insofar as it prohibits the use of any food additive that is found to "induce cancer." The FDA made a similar argument in *Public Citizen v. Young*,⁵⁰ where the agency sought to exempt substances that created a one-in-a-million lifetime risk of cancer—the same risk that would be run if a consumer ate one peanut with the FDA-permitted level once every 250 days, and a risk less than one-two hundred thousandth the lifetime risk incurred by the average male smoker. In both cases, the government urged in essence that "de minimis non curat lex." But in *Les*, part of the EPA's rationale came close to a suggestion that the exception may well, on balance, decrease risks to life and health. According to the EPA, the Clause might allow substances on the market that are actually less dangerous than other substances that are permitted because they do not concentrate in processed foods.

In neither case did the government seriously press the claim that the Delaney Clause, if interpreted literally, would increase health risks. If the government had done so, and offered a convincing factual demonstration to that effect, it should have been permitted to interpret the Clause so as to decrease risk on balance. The practice of statutory construction is pervaded by interpretive principles designed to give reason and justice the benefit of the doubt.⁵¹ To

⁴⁸See Cass R. Sunstein, *Law and Administration After Chevron*, 90 Colum L Rev 2071, 2087-91 (1990).

⁴⁹968 F.2d 285 (9th Cir. 1992).

⁵⁰831 F.2d 1108 (DC Cir 1987).

⁵¹See the catalogue of existing principles in William Eskridge, *Dynamic Statutory Construction* Appendix 3 at 323-33 (1994).

existing principles the courts should add a suggestion that if at all possible, statutes will not be construed so as to block agencies from taking account of health-health tradeoffs.

B. Refusal To Consider Ancillary Risks

Now suppose that an agency refuses to consider, or to make decisive, the fact that its decision to reduce one risk increases another risk. Perhaps a new regulatory initiative from the NRC would increase the risks from coal-fired power plants. Is the NRC's refusal to consider such risks unlawful? The first question is whether the statute requires consideration of ancillary risks. The second question is whether, if the statute does not do so, the agency's decision is nonetheless arbitrary or capricious.

As we have seen, many statutes do not require agencies to consider ancillary risks. In any case, courts defer to reasonable agency interpretations of statutes,⁵² and thus in many instances the agency will have the authority to decide whether to consider ancillary risks. If the agency has the statutory authority not to consider ancillary risks, it is unlikely, under current law, to be found that its decision not to do so was arbitrary. The judgment about arbitrariness should and probably would be based on a framework like that set out in Part II above.⁵³ In an extreme case, failure to consider risks that are likely to be large, and that are not terribly costly to investigate, might be seen as arbitrary within the meaning of the APA.⁵⁴ Indeed, I believe—for reasons to be elaborated shortly—that courts should be less reluctant than they now are to find agency action arbitrary on this ground.

A great deal of course turns on existing information. When the data about ancillary risks are speculative or unreliable, agencies are probably not required to consider such risks. OSHA could lawfully conclude—as it has in fact concluded—that the evidence that “richer is safer” is too speculative to be used at this time. Its decision to this effect ought not to be found arbitrary or capricious unless it can be

⁵²See *Chevron v. NRDC*, 467 US 837 (1984).

⁵³See *Vermont Yankee v. NRDC*, 435 US 519 (1978); *Motor Vehicle Manufacturers Assn. v. State Farm Mutual Ins. Co.*, 463 U.S. 29 (1983).

⁵⁴Cf. *NRDC v. Morton*, 458 F.2d 827 (1972); *California v. Block*, 690 F.2d 7356 (9th Cir. 1982).

shown that the evidence is in fact solid and that the costs of incorporating it are reasonable. The relevant provision of the statute—the “reasonably necessary or appropriate” language—gives OSHA discretion to do with this evidence as it chooses. Under FIFRA, by contrast, an agency that fails to consider ancillary risks would probably be violating the statute, at least on a showing that the ancillary risks are real and the costs of investigation are not excessive.

Consider in this regard the principal case involving the issue of health-health tradeoffs, *Competitive Enterprise Institute v. NHTSA*.⁵⁵ NHTSA establishes fuel economy standards; in doing so, NHTSA is required to consider the issue of “feasibility.” In deciding the question of feasibility, NHTSA has taken account of passenger safety, including risks created by regulation, and while there is a possible statutory issue here, everyone in *CEI* accepted NHTSA’s views on this point. The question in the case was whether NHTSA had acted lawfully in refusing to relax its fuel economy standards for certain model years. Automobile companies urged that relaxation was required in order to save lives—because the existing standards would lead to “downsizing” and hence to smaller and more dangerous vehicles—and they presented strong evidence to this effect.

The agency responded that this evidence was unconvincing and that “domestic manufacturers should be able to improve their fuel economy in the future by . . . technological means, without outsourcing their larger cars, without further downsizing or mix shifts toward smaller cars, and without sacrificing acceleration or performance.”⁵⁶ The court held that this explanation was inadequate. The agency failed to claim or show that in fact, manufacturers would fail to downsize their cars. In any case downsizing would be costly, and that “cost would translate into higher prices for large cars (as well as small), thereby pressuring consumers to retain their old cars and make the associated sacrifice in safety. The result would be effectively the same harm that concerns petitioners and that the agency fails to negate or justify.”⁵⁷ The court therefore remanded to the agency for a better explanation or a change in policy.

⁵⁵956 F.2d 321 (DC Cir 1992)

⁵⁶Quoted in *id.* at 324.

⁵⁷*Id.* at 325.

On remand, the agency offered a somewhat better explanation. NHTSA pointed to what it saw as the absence of clear indications that fuel economy standards had caused any manufacturer to price consumers out of the market for larger, safer cars. NHTSA referred as well to an absence of manufacturer claims about the specific design standards that would result from the standards. The court found this explanation sufficient. In doing so, it applied a highly deferential form of review.

In light of the record, however, and the predictable pressures on an agency like NHTSA, the result in the case might well be questioned. NHTSA may well suffer from a form of “tunnel vision,” especially in dealing with fuel economy standards, for which there is a powerful constituency. The interests that call for attention to ancillary safety risks are typically poorly organized, and when the claims come from the automobile manufacturers, NHTSA may be too ready to distrust them. To say this is not to say that NHTSA should be required to relax its fuel economy standards. But it is to say that a demonstration of the sort made by the automobile manufacturers might well serve as a kind of warning signal to the court, requiring a solid response from the agency. In *CEI*, the agency’s response could not qualify as solid, as the court itself, while affirming the agency, seemed to suggest. A promising model for the future is provided by an important court of appeals decision holding that under a statute that required open-ended balancing of relevant factors, an agency was required to ask whether the risks that would substitute for asbestos would lead to even greater risks.⁵⁸

The point I am making here might well be generalized. Agencies ought generally to be required to show that they are doing more good than harm.⁵⁹ This does not mean that courts should engage in independent review of agency judgments on this score. But it does mean that courts should take a “hard look” at agency decisions failing to undertake health-health comparisons.

⁵⁸*Corrosion Proof Fittings v. EPA*, 947 F.2d 1201 (5th Cir. 1991).

⁵⁹See Margolis, *Dealing With Risk* (1996); Warren and Merchant, *More Good Than Harm*, 20 *Ecology LQ* 379 (1993)

V. NEW INSTITUTIONS

A. Congress

In its present form, Congress is ill equipped to consider the problem of health-health tradeoffs. Its committee structure ensures a high degree of fragmentation and does not allow for deliberation on such tradeoffs. On the contrary, that structure makes ancillary risks difficult to evaluate or, much worse, even to see. Often ancillary risks are thought to be subject to the jurisdiction of another committee, which means, in practice, that coordination is extremely difficult. In these circumstances, I offer two simple suggestions for legislative reform.

The first is that Congress should create a new legislative committee entrusted specifically with the power to assess aggregate risk levels, to compare risks, and to initiate revision of statutes that increase net risks. This committee should have the power to introduce corrective legislation when a statute, or agency action under a statute, has been shown to increase aggregate risks. Congress' current efforts in this regard are far too modest. Speaker Gingrich's introduction of a regular "Corrections Day" may provide some modest deterrence and offer protection against abuses; but it is far too irregular to provide the sort of coordination that is needed. No institution in Congress is in a position to ensure against selective attention in lawmaking; a new committee could help solve this problem.

My second suggestion is that Congress should address the problem of health-health tradeoffs through a new directive in the Administrative Procedure Act. Notably, recent initiatives designed to require cost-benefit balancing say almost nothing about this problem. The principal exception is a House bill introduced in 1995, which contains a subsection entitled "Substitution Risks." This subsection says that "each significant risk assessment or risk characterization document shall include a statement of any substitution risks to human health, where information on such risks has been provided to the agency."⁶⁰

But this is a strikingly modest initiative. It does not require agencies to investigate ancillary risks on their own. Nor does it say

⁶⁰HR 1022.

that agencies may not proceed unless the regulation yields net benefits. I suggest instead a new amendment to the Administrative Procedure Act: “*Agencies shall ensure, to the extent feasible, that regulations do not create countervailing risks that are greater than those of the regulated risk.*” A modest forerunner of this idea can be found in the “clean fuels” provision of the Clean Air Act, which says that the Administrator of EPA may not prohibit the use of a fuel or fuel additive “unless he finds . . . that in his judgment such prohibition will not cause the use of any other fuel or fuel additive which will produce emissions which will endanger the public health or welfare to the same or greater degree than the use of the fuel or fuel additive proposed to be prohibited.”⁶¹ This idea should be generalized. The words “to the extent feasible” are necessary because some investigations are too costly and speculative to be worthwhile.

B. Executive Branch

The OIRA has been entrusted with the power to coordinate regulatory policy and to ensure reasonable priority-setting. In the Clinton Administration, OIRA appears to have become an advisory body, more limited in its power than it was in the Bush and Reagan administrations. In view of the absence of good priority-setting, and the enormous room for saving costs and increasing regulatory benefits, this is highly unfortunate.

OIRA should see, as one of its central assignments, the task of overcoming governmental tunnel vision, by ensuring that aggregate risks are reduced and that agency focus on particular risks does not mean that ancillary risks are ignored or increased. This is a more modest and particularized version of Justice Breyer’s larger suggestion that OIRA should have a power to set priorities by diverting resources from smaller problems to larger ones.⁶² No body in government is now entrusted with the authority of ensuring that risk regulation is managed so as to ensure global rationality and coherence. OIRA is well situated to take on that role, at least by attending to the possibility that regulation of some risks may make risk levels higher on balance.

⁶¹42 USC 7545(c)(2)(C).

⁶²S. Breyer, *Breaking the Vicious Circle* (1992).

CONCLUSION

On the fiftieth anniversary of the Administrative Procedure Act, it would be far too simple to say that the administrative state has been a failure. In many ways, it has been a substantial success; risks to safety and health are much lower than they have been in the past, partly because of regulatory safeguards.⁶³ But current programs are far more costly, and far less effective, than they should be. Reforms to the Administrative Procedure Act, as that act was originally envisaged, would be far too modest to provide adequate correctives. Existing difficulties cannot be solved by weakening or intensifying standards of judicial review, or by increasing or decreasing the procedures that are required before agencies undertake regulatory action.

As the twenty-first century approaches, it is especially important to design regulatory institutions that counteract the identifiable problems of modern regulation, which usually stem from selective attention in the form of inadequate concern for setting priorities, for providing good incentives, and for minimizing harmful side effects. The relevant reforms would justify an Administrative Substance Act of the general sort that is receiving considerable current attention in Congress.

Among the principal side effects, not well addressed in current proposals or existing law, is the increased risk sometimes produced by risk regulation. Selective attention of this kind is a natural outcome of the cognitive limitations of human beings; sometimes it is a product of self-conscious efforts by well-organized private groups. In any case selective attention can easily be exploited by such groups intent on redistributing resources in their favor. This is a significant problem, and through some simple steps, something can be done about it.

I have emphasized that tradeoffs among risks ought not to be based on a unitary metric, for reasons of both law and basic principle. Lives are not commensurable with costs; lives are not even commensurable with lives. The context in which life is put at risk matters a great deal. But tradeoffs must nonetheless be made. The

⁶³See the evidence in G. Easterbrook, *A Moment on the Earth* (1995); Graham & Weiner, *supra*, at 6-10.

problem is that public institutions do not undertake this task in a self-conscious manner. Such institutions should be therefore designed so as to overcome the cognitive problems and to ensure that the relevant tradeoffs are made in a way that entails more knowledge and more deliberation. Above all, institutions should be created to ensure that risk reduction is pursued more frequently than risk redistribution. To accomplish this task, it is necessary to take steps to limit the effects of myopia, selective attention, and interest group influence in the regulatory process.

I have suggested several possible steps. Under existing law, agencies should often be understood to have the authority to engage in health-health tradeoffs, and they should exercise that authority far more often than they now do. Courts should play a modest but catalytic role in encouraging agencies to increase aggregate risk reduction. They should do so above all by adopting an interpretive principle authorizing agencies to undertake health-health tradeoffs unless Congress has spoken clearly to the contrary. Congress should create a new committee designed to rank risks and monitor risk regulation for overall coherence; it should also add to existing legislation a general requirement that agencies consider all risks, to the extent that this is feasible. Finally, OIRA (or some similar institution) should undertake the process of scrutinizing risk regulation to ensure that agency action does not suffer from the kinds of “tunnel vision,” and susceptibility to both anecdotes and interest groups, that are exemplified by so much of modern risk regulation.

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